Care of patient with Tracheostomy.

Presented by:
Dr: Intisar Ahmed Ali

❖**learning Objectives:**

On completion of this lecture , the learner will be able to:

- Define tracheostomy .
- Mention the indications of tracheostomy.
- Demonstrate tracheostomy Cleaning Procedure.
- Demonstrate suctioning Procedure for the Patient
  with a Tracheostomy

Tracheostomy:

A **tracheotomy** is a surgical opening through the base of the neck into the trachea.

It is called a **tracheostomy** when it is more permanent and has a tube inserted into the opening to maintain patency.

The patient breathes through this opening, by passing the upper airways

Tracheostomy tube

Indications for emergency tracheostomy:

- **Acute upper airway obstruction :this can be due to :**
  - **Foreign body aspiration** : when an object is lodged in the throat or trachea blocking airflow.
  - **Severe allergic reactions** causing swelling of the throat and airway.

- **Trauma to the face or neck:** injuries that cause swelling, bleeding, or structural damage **to the airway.**
- **Failed endotracheal intubation:** when an attempts to insert endotracheal are unsuccessful.

Indications for elective tracheostomy:

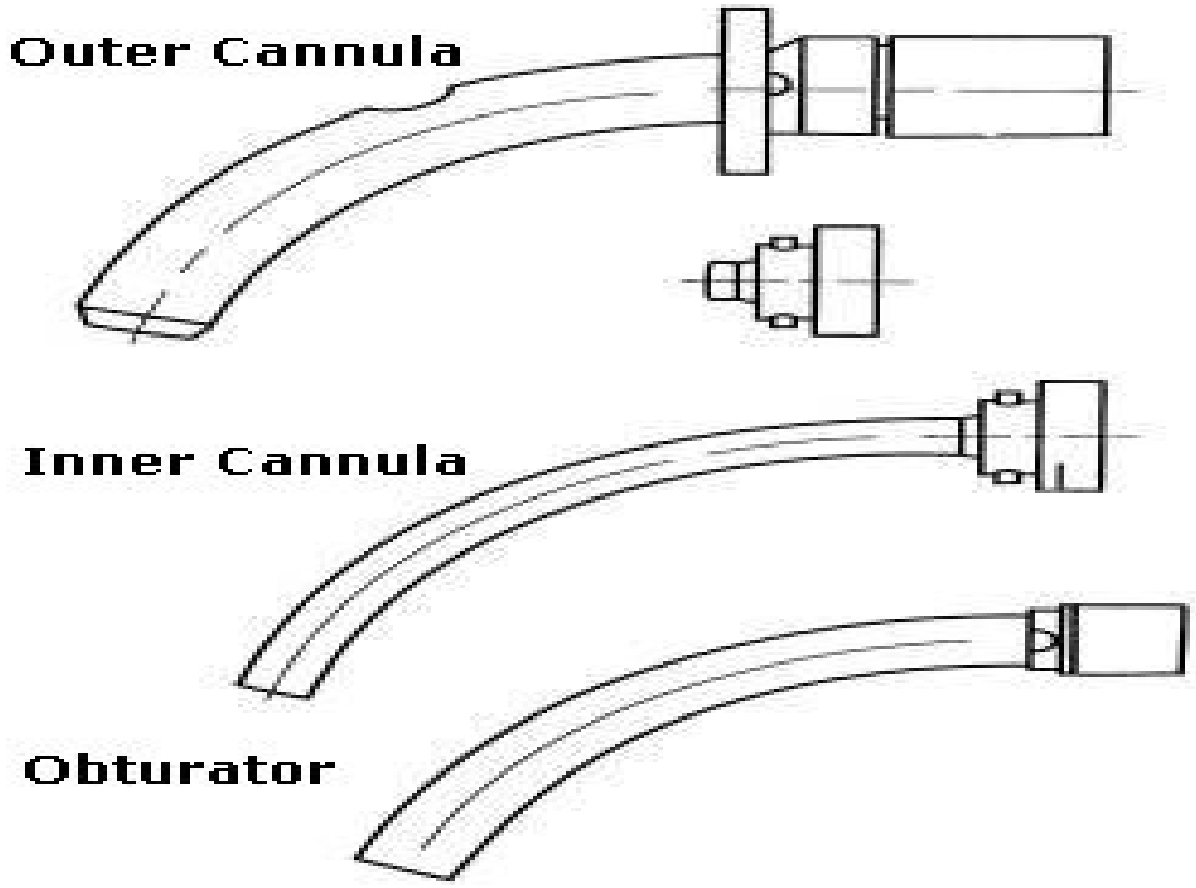
It is performed for a variety of reasons such as :

- patients who need prolonged mechanical ventilation beyond 10 – 14 days due to chronic respiratory failure.
- patients who have ineffective cough and difficulty clearing secretions from the airway.
- In patients who have had a cancerous larynx removed.
- patients with airway obstruction caused by trauma or a tumor.

Patient with tracheostomy.

The tracheostomy tube consists of three parts:

- An outer cannula.
- An inner cannula.
- An obturator The obturator is a guide that is used only during insertion of the tube.
- After insertion, the obturator is immediately removed and **kept at** the bedside for emergency use if the tracheostomy tube is **accidentally** removed.


Outer Cannula
Inner Cannula
Obturator

- The outer cannula remains in place at all times and is secured by ties to prevent dislodging.
- The inner cannula is removed at intervals, usually every 8 hours and as needed for cleaning.

❖ Some newer tracheostomy tubes eliminate the need for an inner cannula.

- The tube may be metal or plastic.
- Plastic tubes typically is disposable .
- Plastic tubes also may have balloon-like cuffs that are **inflated** to prevent air **escape** during mechanical ventilation.

❖The **cuff** is inflated by inject air on it.

❖Cuffs are deflated routinely to prevent **tissue damage.**

cuffed tracheostomy tube

cuffed tracheostomy tube

un cuffed tracheostomy tube

- **Communication** is problematic for the patient with a **tracheostomy** tube because air **is diverted** out the tube rather than past the **vocal cords** and out the mouth.
- The patient can be taught to plug the opening of the tube while speaking .

Tracheostomy Cleaning Procedure

- 1. Assemble equipment: **tracheostomy care kit**, sterile water or saline, suction equipment, hydrogen peroxide.
- 2. Explain the procedure to the patient. Don clean gloves.
- 3. Suction inner cannula if necessary.
- 4. Open and prepare the kit, keeping all equipment sterile.
- 5.Fill one side of basin with half peroxide and half saline and the other with saline.
- 6. Remove old tracheostomy dressing.

7. Remove inner cannula from tracheostomy tube and place it in peroxide solution.

8. While inner cannula is removed, the patient may be suctioned if necessary.

9. Don sterile gloves.

10. Use sterile gauze with sterile peroxide and saline to clean around tracheostomy site.

11. Rinse with saline to prevent skin irritation.

12. Apply sterile tracheostomy dressing.

13. clean inner cannula.

14. Place in water or saline to rinse.

15. Dry inside of cannula .

16. Reinsert into tracheostomy tube.

17.Remove old ties after new ties are securely in place.

18. Care of equipment, hand washing and documentation.

- **Suctioning:**
- Suctioning involves the use of a flexible catheter to remove secretions from the respiratory tract of a patient who is unable to cough effectively.
- This may be a patient with a tracheostomy tube who is **unable** to clear the tube with coughing.

- Remember **that suctioning** is uncomfortable for a patient.
- It is done only when necessary rather than on a routine basis.
- coughing is the most effective way to clear secretions and should be encouraged if the patient is capable.

Signs that suctioning is needed include:

- Crackles or wheezes heard with or without a stethoscope
- A dropping oxygen saturation value.

❖ Each step should be explained to the patient during suctioning even if he or she is unresponsive

Suctioning Procedure for the Patient with a Tracheostomy

1. Gather equipment:

- Sterile suction catheter.
- Sterile water or saline.
- Suction machine with tubing.
- Manual resuscitation bag.(ambobag)

2. Explain procedure to patient.

3. Connect catheter to suction tubing, keeping catheter inside
sterile sleeve.

4.Turn on suction to level specified by institution
policy (usually 80–120 mm Hg for wall suction).

5.Connect oxygen source to manual resuscitation bag.

6. Pour saline into sterile container.

7. Put on sterile gloves. Keep dominant hand sterile at all times.

8. Suction small amount of saline into catheter.

9. Oxygenate *patient with three ventilations* using a manual resuscitation bag connected to an oxygen source, using the nonsterile hand.

10. With thumb control uncovered to stop suction, insert suction catheter through tracheostomy tube until patient **coughs** or resistance is met.

11. **Slowly** withdraw catheter, suctioning intermittently while rotating it. (The entire procedure should take no more than 15 seconds.)

- 12. Allow patient to rest.

❖ Some older sources recommend **instilling** sterile saline into the tracheostomy **to loosen** secretions. ***This should be avoided***. It is now known that this procedure is not effective and may actually cause a drop in the patient's SaO2.

Current best practices for managing thick tracheostomy secretion:

- Adequate **systemic hydration**: ensuring patient is well –hydrated helps to keep secretions thin and easier to manage.
- **Humidification** of inspired air help to prevent secretions from becoming thick and dry.
- **Chest physiotherapy** can help to mobilize secretions.
- **Saline nebulizers** may be used to loosen secretions in some patients.

Weaning from tracheostomy tube:

Some patients can be **weaned** from the tracheostomy tube when their condition has **improved** enough to allow breathing without it.

- The health care provider may **replace** the tube **with a smaller tube** to prepare the patient for its removal.
- The tracheostomy tube can be **covered** with gauze and plaster at intervals to force the patient to breathe around the tube through the nose and mouth.

- When the tracheostomy tube has been removed, the opening may covered with gauze until it is healed.
- The gauze often becomes saturated with secretions and is changed as needed till complete healing occur.

Nursing process For Patient With Tracheostomy

- Assess patient’s :

  · Patients comfort.
  · Respiratory ease.
  · O2 saturation if indicated.
  · Vital signs as necessary to determine distress
  · Stoma condition: free of redness, swelling, purulent secretions

- Assess for signs and symptoms of respiratory infection:
  · Increase in temperature.
  · Changes in secretion: amount, color, odor

Nursing diagnose :**Ineffective Airway Clearance** related to accumulation of secretions.

Expected outcome:

- Patient well maintain airway patency

Nursing interventions:

- Monitor lung sounds, cough, and respirations.
- Suction as needed using sterile technique to remove secretions.

- - Encourage hydration to thin secretions.
- - Provide humidification to prevent drying of mucosa.
- - Monitor for signs of respiratory distress.
- Keep the patient in an upright or semi-Fowler’s position to promote lung expansion and secretion drainage.
- - Teach effective coughing techniques to mobilize secretions.

N.D: Impaired Verbal Communication related to Tracheostomy tube bypassing the vocal cords

- **Expected outcome:** Assist the patient in effective communication.
- **Nursing interventions:**
- Provide communication aids like boards or writing tools.

- - Establish communication codes (e.g., blinking for yes/no).
- - Encourage use of a speaking valve if appropriate.
- - Include family members in communication strategies.

N.D: Risk for Infection Related to presence of a tracheostomy tube (invasive procedure)and accumulation of secretions.

- **Expected outcome:**
- prevent patient from infection.
- Interventions:
- Assess for signs of infection (e.g., redness, swelling, purulent drainage, fever).
- - Perform tracheostomy care using sterile technique.

- - Clean the stoma regularly and change dressings.
- - Change inner cannula as per protocol or as needed.
- - Educate the patient and caregivers on proper hand hygiene

N.D: Impaired Skin Integrity related to pressure from the tracheostomy tube or ties and moisture from secretions.

Expected outcome: keep patient skin integrity.

N. Interventions:

Inspect skin around the stoma daily for breakdown or irritation.

- - Ensure tracheostomy ties are secure but not too tight (allow 2 fingers).
- - Apply protective barriers/dressings as needed.
- - Reposition tracheostomy tube slightly during routine care.

N.D: **Anxiety or Fear related to difficulty breathing and Inability to speak.**

- **Expected outcome:** relieve anxiety.
- **Nursing interventions:**
- - Provide reassurance and emotional support.
- - Educate patient and family about tracheostomy purpose and care.

- - Allow the patient to express fears and concerns.
- - Involve the patient in their care to build confidence.

Thanks